

## **Proposed Item for Biobased Designation**

The following biobased product information has been collected to support item designation by USDA for the Federal Biobased Product Preferred Procurement Program (FB4P). This summary reflects data available as of March 3, 2006.

### **Title: De-Icers**

**Description:** Agents that aid the removal of snow and ice.

**Manufacturers Identified:** 3 manufacturers producing De-Icers have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

**Industry Associations Investigated:** The following industry associations have been investigated for member companies producing De-Icers:

- Biobased Manufacturers Association
- United Soybean Board
- National Corn Growers Association
- American Public Works Association
- Bare Ground Systems
- Pacific Northwest Snowfighters
- Snow and Ice Pooled Fund Cooperative Program
- Snow & Ice Management Association
- American Association of State Highway & Transportation Officials

**Commercially Available Products Identified:** Of the manufacturers identified, 9 De-Icers are commercially available on the market.

**Product Information Collected:** Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 1 De-Icers.

**Industry Performance Standards:** Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- National Association of Corrosion Engineers Standard TM-01- 69 (1976 rev.)  
Standardizes immersion corrosion testing, and provides a consensus on the technology in this field of laboratory corrosion testing.
- Pacific Northwest Snowfighters - Standard Methods for the Examination of Water and Wastewater
- American Association of State Highway & Transportation Officials

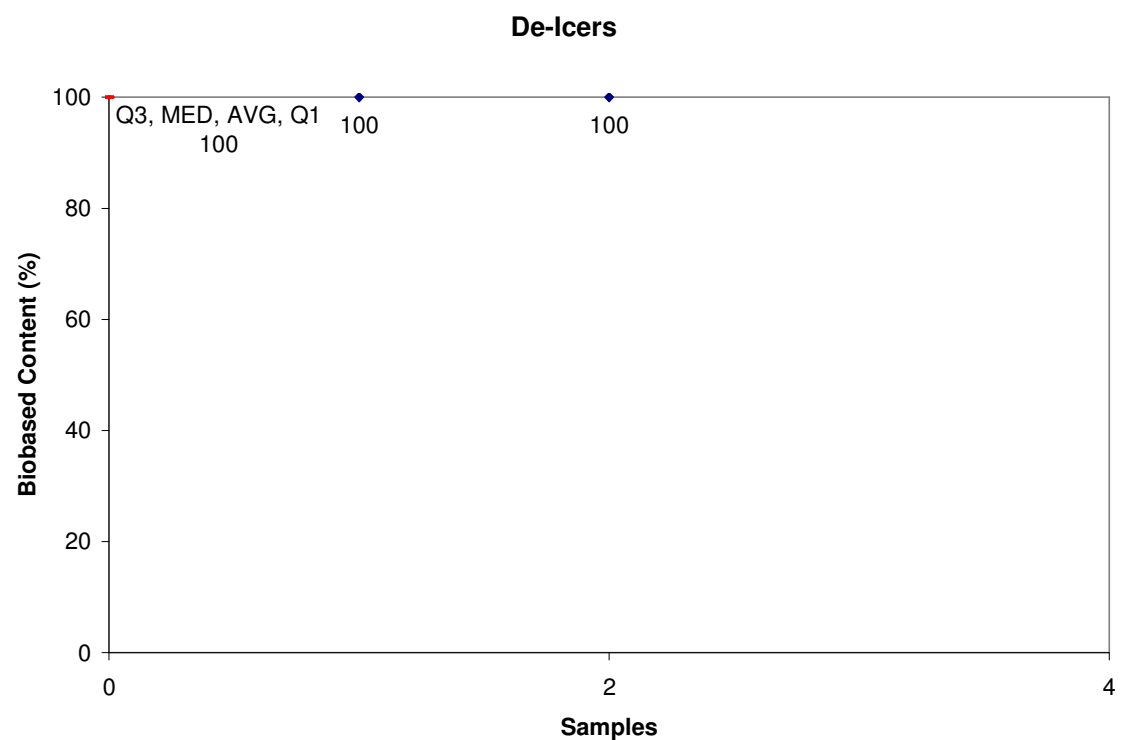
**Samples Tested for Biobased Content:** 2 samples of De-Icers have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

**Biobased Content Data:** Results from biobased content testing of De-Icers indicate a range of content percentages from 100% minimum to 100% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

**Products Submitted for BEES Analysis:** Life-cycle cost and environmental effect data for 1 De-Icers have been submitted to NIST for BEES analysis.

**BEES Analysis:** The life-cycle costs of the submitted De-Icers range from \$3.75 minimum to \$3.75 maximum per usage unit. The environmental scores range from 0.0173 minimum to 0.0173 maximum. A detailed summary of the BEES results is included as Appendix B.

Appendix A - Biobased Content Data

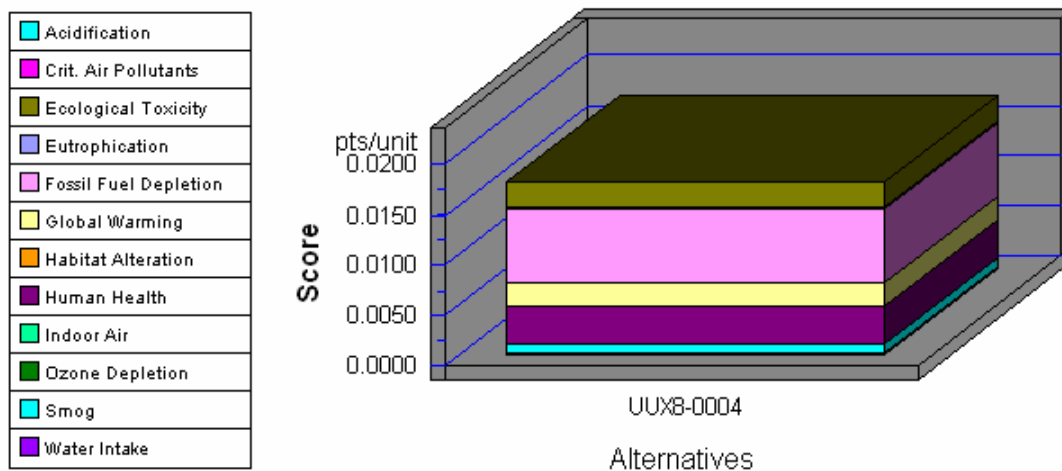


	Manufacturers Identified	Products Identified	C14	BEES
1	WF5U	WF5U-0040	100	
2	WF5U	WF5U-0005	100	
3	UUX8	UUX8-0004		yes

## Appendix B - BEES Analysis Results

Functional Unit: De-icing 1500 square yards of surface area

### Environmental Performance

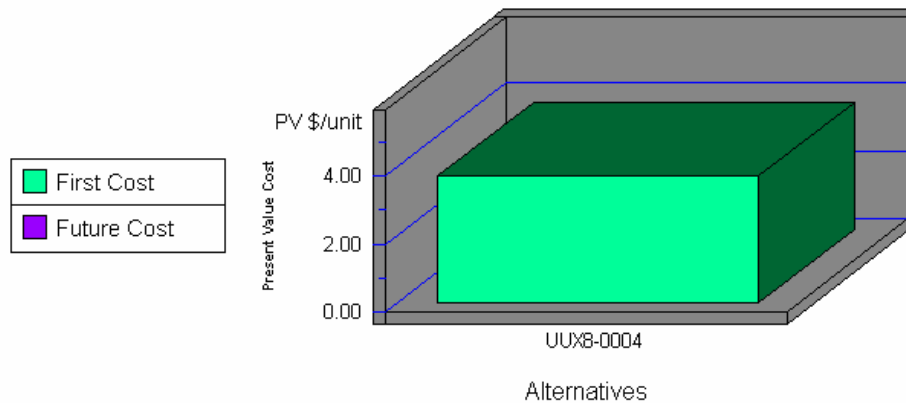


**Note: Lower values are better**

Category	UUX8-0004
Acidification--5%	0.0000
Crit. Air Pollutants--6%	0.0001
Ecolog. Toxicity--11%	0.0025
Eutrophication--5%	0.0002
Fossil Fuel Depl.--5%	0.0072
Global Warming--16%	0.0024
Habitat Alteration--16%	0.0000
Human Health--11%	0.0037
Indoor Air--11%	0.0000
Ozone Depletion--5%	0.0000
Smog--6%	0.0010
Water Intake--3%	0.0002
<b>Sum</b>	<b>0.0173</b>

## Appendix B (continued)

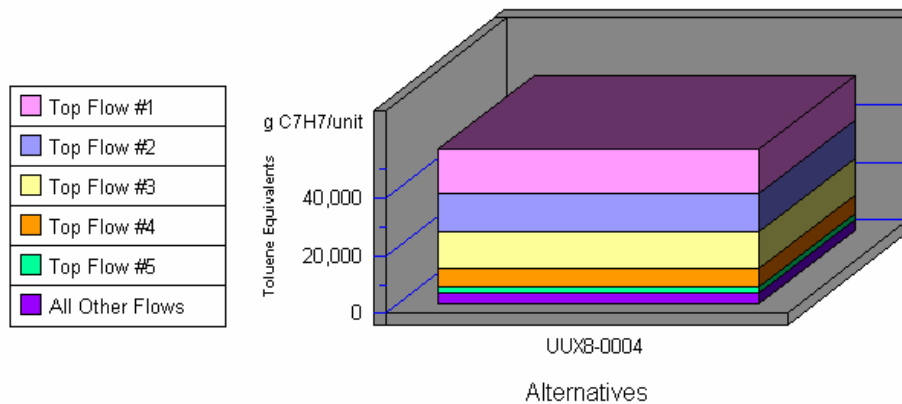
### Economic Performance



Category	UUX8-0004
First Cost	3.75
Future Cost-- 3.9%	0.00
<b>Sum</b>	<b>3.75</b>

\*No significant/quantifiable durability differences are expected among competing alternatives. Therefore, future costs were not calculated.

### Human Health by Sorted Flows\*



**Note: Lower values are better**

Category	UUX8-0004
Cancer--(w) Arsenic (As3+, As5+)	15,403.35
Cancer--(w) Phenol (C6H5OH)	13,470.24
Cancer--(a) Dioxins (unspecifie	12,751.46
Cancer--(a) Arsenic (As)	6,099.53
Noncancer--(a) Mercury (Hg)	2,310.62
All Others	4,042.42
<b>Sum</b>	<b>54,077.61</b>

\*Sorted by five topmost flows for worst-scoring product